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Abstract Submitted for the 1997 Topical Conference
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Suggested titles of sessions in
which paper should be placed:

Detonation Physics & Energetic Materials {DE}

Impact Ignition of New and Aged Solid Explosives.*
S. K. Chidester, C. M. Tarver, C. G. Lee, Lawrence Livermore National Laboratory.--- The critical impact velocities of 76.2 mm diameter steel projectiles required to produce ignition are measured for new and aged (15 - 30 years) confined charges of LX-10, LX-04, PBX 9404, and LX-17. Embedded pressure gauges and external blast overpressure gauges are employed to determine the relative violence of the high explosive reactions. The experimental geometry is modeled in DYNA2D using recently developed material strength models, and thermal energy deposition thresholds for impact ignition are found. Comparisons of critical impact velocities and material models for new and aged explosives are presented.

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Prefer Standard Session